

PORE STRUCTURES FOR REDUCED PRESSURE AEROSOLIZATION

ABSTRACT OF THE DISCLOSURE

A nozzle comprising a thin, flexible substantially planar polymeric film having a plurality of pores with structures allowing for generation of an aerosol at reduced extrusion pressure is disclosed. The pores can comprise at least two sections, or steps, in which the thickness of the membrane is reduced in stepwise fashion, or the pores can be tapered. Nozzles formed comprising pores having such structures permit aerosol generation at lower extrusion pressures, thereby allowing for decreased weight of aerosolization devices, increased efficiency, increased portability and increased battery life. The pore structures also allow for the use of thicker, more easily processed polymeric films in manufacturing while having a thinner, more efficient aerosolization area. The use of decreased extrusion pressures also results in increased uniformity in aerosol generation and improved reliability of other components.

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